

0570  
08/4

CRF Errors Corrected by the STIC Systems Branch

#2

Serial Number: 09/920033

CRF Processing Date: 10/05/01  
Edited by: mt  
Verified by: \_\_\_\_\_ (ST)

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data"
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☐ Other: \_\_\_\_\_

\*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/920,033

DATE: 10/05/2001

TIME: 13:13:52

Input Set : A:\PTO.MH.txt

Output Set: N:\CRF3\10052001\I920033.raw

ENTERED

6 <110> APPLICANT: Rosanne M. Crooke  
 7 Mark J. Graham  
 10 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF APOLIPOPROTEIN B EXPRESSION  
 12 <130> FILE REFERENCE: ISPH-0592  
 C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/920,033  
 C--> 14 <141> CURRENT FILING DATE: 2001-08-01  
 14 <160> NUMBER OF SEQ ID NOS: 123  
 16 <210> SEQ ID NO: 1  
 17 <211> LENGTH: 20  
 18 <212> TYPE: DNA  
 19 <213> ORGANISM: Artificial Sequence  
 21 <220> FEATURE:  
 22 <223> OTHER INFORMATION: Antisense Oligonucleotide  
 24 <400> SEQUENCE: 1  
 25 tccgtcatcg ctccctcaggg 20  
 27 <210> SEQ ID NO: 2  
 28 <211> LENGTH: 20  
 29 <212> TYPE: DNA  
 30 <213> ORGANISM: Artificial Sequence  
 32 <220> FEATURE:  
 33 <223> OTHER INFORMATION: Antisense Oligonucleotide  
 35 <400> SEQUENCE: 2  
 36 atgcattctg cccccaagga 20  
 38 <210> SEQ ID NO: 3  
 39 <211> LENGTH: 14121  
 40 <212> TYPE: DNA  
 41 <213> ORGANISM: Homo sapiens  
 43 <220> FEATURE:  
 44 <221> NAME/KEY: CDS  
 45 <222> LOCATION: (129)...(13820)  
 47 <400> SEQUENCE: 3  
 48 attcccaccg ggacctgcgg ggetgagtgc ccttctcggt tgctgccgct gaggagcccg 60  
 49 cccagccagc cagggccgcg aggccgagggc cagggccgcag cccaggagcc gccccaccgc 120  
 50 agctggcg atg gac ccg ccg agg ccc gcg ctg ctg gcg ctg ctg gcg ctg 170  
 51 Met Asp Pro Pro Arg Pro Ala Leu Leu Ala Leu Leu Ala Leu  
 52 1 5 10  
 54 cct gcg ctg ctg ctg ctg ctg gcg ggc gcc agg gcc gaa gag gaa 218  
 55 Pro Ala Leu Leu Leu Leu Leu Ala Gly Ala Arg Ala Glu Glu Glu  
 56 15 20 25 30  
 58 atg ctg gaa aat gtc agc ctg gtc tgt cca aaa gat gcg acc cga ttc 266  
 59 Met Leu Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala Thr Arg Phe  
 60 35 40 45  
 62 aag cac ctc cgg aag tac aca tac aac tat gag gct gag agt tcc agt 314  
 63 Lys His Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu Ser Ser Ser  
 64 50 55 60  
 66 gga gtc cct ggg act gct gat tca aga agt gcc acc agg atc aac tgc 362  
 67 Gly Val Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg Ile Asn Cys

Non Entered

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DATE: 10/05/2001

TIME: 13:13:52

Input Set : A:\PTO.MH.txt

Output Set: N:\CRF3\10052001\I920033.raw

68	65	70	75	
70 aag gtt gag ctg gag gtt ccc cag ctc tgc agc ttc atc ctg aag acc				410
71 Lys Val Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile Leu Lys Thr				
72 80	85	90		
74 agc cag tgc acc ctg aaa gag gtg tat ggc ttc aac cct gag ggc aaa				458
75 Ser Gln Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro Glu Gly Lys				
76 95	100	105		110
78 gcc ttg ctg aag aaa acc aag aac tct gag gag ttt gct gca gcc atg				506
79 Ala Leu Leu Lys Thr Lys Asn Ser Glu Glu Phe Ala Ala Ala Met				
80 115	120	125		
82 tcc agg tat gag ctc aag ctg gcc att cca gaa ggg aag cag gtt ttc				554
83 Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys Gln Val Phe				
84 130	135	140		
86 ctt tac ccg gag aaa gat gaa cct act tac atc ctg aac atc aag agg				602
87 Leu Tyr Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn Ile Lys Arg				
88 145	150	155		
90 ggc atc att tct gcc ctc ctg gtt ccc cca gag aca gaa gaa gcc aag				650
91 Gly Ile Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu Glu Ala Lys				
92 160	165	170		
94 caa gtg ttg ttt ctg gat acc gtg tat gga aac tgc tcc act cac ttt				698
95 Gln Val Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser Thr His Phe				
96 175	180	185		190
98 acc gtc aag acg agg aag ggc aat gtg gca aca gaa ata tcc act gaa				746
99 Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile Ser Thr Glu				
100 195	200	205		
102 aga gac ctg ggg cag tgt gat cgc ttc aag ccc atc cgc aca ggc atc				794
103 Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg Thr Gly Ile				
104 210	215	220		
106 agc cca ctt gct ctc atc aaa ggc atg acc cgc ccc ttg tca act ctg				842
107 Ser Pro Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu Ser Thr Leu				
108 225	230	235		
110 atc agc agc agc cag tcc tgt cag tac aca ctg gac gct aag agg aag				890
111 Ile Ser Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala Lys Arg Lys				
112 240	245	250		
114 cat gtg gca gaa gcc atc tgc aag gag caa cac ctc ttc ctg cct ttc				938
115 His Val Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe Leu Pro Phe				
116 255	260	265		270
118 tcc tac aac aat aag tat ggg atg gta gca caa gtg aca cag act ttg				986
119 Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr Gln Thr Leu				
120 275	280	285		
122 aaa ctt gaa gac aca cca aag atc aac agc cgc ttc ttt ggt gaa ggt				1034
123 Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe Gly Glu Gly				
124 290	295	300		
126 act aag aag atg ggc ctc gca ttt gag agc acc aaa tcc aca tca cct				1082
127 Thr Lys Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser Thr Ser Pro				
128 305	310	315		
130 cca aag cag gcc gaa gct gtt ttg aag act ctc cag gaa ctg aaa aaa				1130
131 Pro Lys Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu Leu Lys Lys				
132 320	325	330		

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134 cta acc atc tct gag caa aat atc cag aga gct aat ctc ttc aat aag 1178
135 Leu Thr Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu Phe Asn Lys
136 335 340 345 350
138 ctg gtt act gag ctg aga ggc ctc agt gat gaa gca gtc aca tct ctc 1226
139 Leu Val Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val Thr Ser Leu
140 355 360 365
142 ttg cca cag ctg att gag gtg tcc agc ccc atc act tta caa gcc ttg 1274
143 Leu Pro Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu Gln Ala Leu
144 370 375 380
146 gtt cag tgt gga cag cct cag tgc tcc act cac atc ctc cag tgg ctg 1322
147 Val Gln Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu Gln Trp Leu
148 385 390 395
150 aaa cgt gtg cat gcc aac ccc ctt ctg ata gat gtg gtc acc tac ctg 1370
151 Lys Arg Val His Ala Asn Pro Leu Leu Ile Asp Val Val Thr Tyr Leu
152 400 405 410
154 gtg gcc ctg atc ccc gag ccc tca gca cag cag ctg cga gag atc ttc 1418
155 Val Ala Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg Glu Ile Phe
156 415 420 425 430
158 aac atg gcg agg gat cag cgc agc cga gcc acc ttg tat gcg ctg agc 1466
159 Asn Met Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr Ala Leu Ser
160 435 440 445
162 cac gcg gtc aac aac tat cat aag aca aac cct aca ggg acc cag gag 1514
163 His Ala Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly Thr Gln Glu
164 450 455 460
166 ctg ctg gac att gct aat tac ctg atg gaa cag att caa gat gac tgc 1562
167 Leu Leu Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln Asp Asp Cys
168 465 470 475
170 act ggg gat gaa gat tac acc tat ttg att ctg cgg gtc att gga aat 1610
171 Thr Gly Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val Ile Gly Asn
172 480 485 490
174 atg ggc caa acc atg gag cag tta act cca gaa ctc aag tct tca atc 1658
175 Met Gly Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys Ser Ser Ile
176 495 500 505 510
178 ctc aaa tgt gtc caa agt aca aag cca tca ctg atg atc cag aaa gct 1706
179 Leu Lys Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile Gln Lys Ala
180 515 520 525
182 gcc atc cag gct ctg cgg aaa atg gag cct aaa gac aag gac cag gag 1754
183 Ala Ile Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys Asp Gln Glu
184 530 535 540
186 gtt ctt ctt cag act ttc ctt gat gat gct tct ccg gga gat aag cga 1802
187 Val Leu Leu Gln Thr Phe Leu Asp Ala Ser Pro Gly Asp Lys Arg
188 545 550 555
190 ctg gct gcc tat ctt atg ttg atg agg agt cct tca cag gca gat att 1850
191 Leu Ala Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln Ala Asp Ile
192 560 565 570
194 aac aaa att gtc caa att cta cca tgg gaa cag aat gag caa gtg aag 1898
195 Asn Lys Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu Gln Val Lys
196 575 580 585 590
198 aac ttt gtg gct tcc cat att gcc aat atc ttg aac tca gaa gaa ttg 1946

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Input Set : A:\PTO.MH.txt

Output Set: N:\CRF3\10052001\I920033.raw

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199 Asn Phe Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser Glu Glu Leu
200          595          600          605
202 gat atc caa gat ctg aaa aag tta gtg aaa gaa gct ctg aaa gaa tct 1994
203 Asp Ile Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu Lys Glu Ser
204          610          615          620
206 caa ctt cca act gtc atg gac ttc aga aaa ttc tct cgg aac tat caa 2042
207 Gln Leu Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg Asn Tyr Gln
208          625          630          635
210 ctc tac aaa tct gtt tct ctt cca tca ctt gac cca gcc tca gcc aaa 2090
211 Leu Tyr Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala Ser Ala Lys
212          640          645          650
214 ata gaa ggg aat ctt ata ttt gat cca aat aac tac ctt cct aaa gaa 2138
215 Ile Glu Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu Pro Lys Glu
216 655          660          665          670
218 agc atg ctg aaa act acc ctc act gcc ttt gga ttt gct tca gct gac 2186
219 Ser Met Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala Ser Ala Asp
220          675          680          685
222 ctc atc gag att ggc ttg gaa gga aaa ggc ttt gag cca aca ttg gaa 2234
223 Leu Ile Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro Thr Leu Glu
224          690          695          700
226 gct ctt ttt ggg aag caa gga ttt ttc cca gac agt gtc aac aaa gct 2282
227 Ala Leu Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val Asn Lys Ala
228          705          710          715
230 ttg tac tgg gtt aat ggt caa gtt cct gat ggt gtc tct aag gtc tta 2330
231 Leu Tyr Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser Lys Val Leu
232          720          725          730
234 gtg gac cac ttt ggc tat acc aaa gat gat aaa cat gag cag gat atg 2378
235 Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu Gln Asp Met
236 735          740          745          750
238 gta aat gga ata atg ctc agt gtt gag aag ctg att aaa gat ttg aaa 2426
239 Val Asn Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys Asp Leu Lys
240          755          760          765
242 tcc aaa gaa gtc ccg gaa gcc aga gcc tac ctc cgc atc ttg gga gag 2474
243 Ser Lys Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile Leu Gly Glu
244          770          775          780
246 gag ctt ggt ttt gcc agt ctc cat gac ctc cag ctc ctg gga aag ctg 2522
247 Glu Leu Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu Gly Lys Leu
248          785          790          795
250 ctt ctg atg ggt gcc cgc act ctg cag ggg atc ccc cag atg att gga 2570
251 Leu Leu Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln Met Ile Gly
252          800          805          810
254 gag gtc atc agg aag ggc tca aag aat gac ttt ttt ctt cac tac atc 2618
255 Glu Val Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu His Tyr Ile
256 815          820          825          830
258 ttc atg gag aat gcc ttt gaa ctc ccc act gga gct gga tta cag ttg 2666
259 Phe Met Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly Leu Gln Leu
260          835          840          845
262 caa ata tct tca tct gga gtc att gct ccc gga gcc aag gct gga gta 2714
263 Gln Ile Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys Ala Gly Val

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DATE: 10/05/2001

TIME: 13:13:52

Input Set : A:\PT0.MH.txt

Output Set: N:\CRF3\10052001\I920033.raw

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266	aaa	ctg	gaa	gta	gcc	aac	atg	cag	gct	gaa	ctg	gtg	gca	aaa	ccc	tcc	2762					
267	Lys	Leu	Glu	Val	Ala	Asn	Met	Gln	Ala	Glu	Leu	Val	Ala	Lys	Pro	Ser						
268	865												870			875						
270	gtg	tct	gtg	gag	ttt	gtg	aca	aat	atg	ggc	atc	atc	att	ccg	gac	ttc	2810					
271	Val	Ser	Val	Glu	Phe	Val	Thr	Asn	Met	Gly	Ile	Ile	Ile	Pro	Asp	Phe						
272	880												885			890						
274	gct	agg	agt	ggg	gtc	cag	atg	aac	acc	aac	ttc	ttc	cac	gag	tcg	ggt	2858					
275	Ala	Arg	Ser	Gly	Val	Gln	Met	Asn	Thr	Asn	Phe	Phe	His	Glu	Ser	Gly						
276	895												900			905			910			
278	ctg	gag	gct	cat	gtt	gcc	cta	aaa	gct	ggg	aag	ctg	aag	ttt	atc	att	2906					
279	Leu	Glu	Ala	His	Val	Ala	Leu	Lys	Ala	Gly	Lys	Leu	Lys	Phe	Ile	Ile						
280	915												920			925						
282	cct	tcc	cca	aag	aga	cca	gtc	aag	ctg	ctc	agt	gga	ggc	aac	aca	tta	2954					
283	Pro	Ser	Pro	Lys	Arg	Pro	Val	Lys	Leu	Leu	Ser	Gly	Gly	Asn	Thr	Leu						
284	930												935			940						
286	cat	ttg	gtc	tct	acc	acc	aaa	acg	gag	gtg	atc	cca	cct	ctc	att	gag	3002					
287	His	Leu	Val	Ser	Thr	Thr	Lys	Thr	Glu	Val	Ile	Pro	Pro	Leu	Ile	Glu						
288	945												950			955						
290	aac	agg	cag	tcc	tgg	tca	gtt	tgc	aag	caa	gtc	ttt	cct	ggc	ctg	aat	3050					
291	Asn	Arg	Gln	Ser	Trp	Ser	Val	Cys	Lys	Gln	Val	Phe	Pro	Gly	Leu	Asn						
292	960												965			970						
294	tac	tgc	acc	tca	ggc	gct	tac	tcc	aac	gcc	agc	tcc	aca	gac	tcc	gcc	3098					
295	Tyr	Cys	Thr	Ser	Gly	Ala	Tyr	Ser	Asn	Ala	Ser	Ser	Thr	Asp	Ser	Ala						
296	975												980			985			990			
298	tcc	tac	tat	ccg	ctg	acc	ggg	gac	acc	aga	tta	gag	ctg	gaa	ctg	agg	3146					
299	Ser	Tyr	Tyr	Pro	Leu	Thr	Gly	Asp	Thr	Arg	Leu	Glu	Leu	Glu	Leu	Arg						
300	995												1000			1005						
302	cct	aca	gga	gag	att	gag	cag	tat	tct	gtc	agc	gca	acc	tat	gag	ctc	3194					
303	Pro	Thr	Gly	Glu	Ile	Glu	Gln	Tyr	Ser	Val	Ser	Ala	Thr	Tyr	Glu	Leu						
304	1010												1015			1020						
306	cag	aga	gag	gac	aga	gcc	ttg	gtg	gat	acc	ctg	aag	ttt	gta	act	caa	3242					
307	Gln	Arg	Glu	Asp	Arg	Ala	Leu	Val	Asp	Thr	Leu	Lys	Phe	Val	Thr	Gln						
308	1025												1030			1035						
310	gca	gaa	ggt	gcg	aag	cag	act	gag	gct	acc	atg	aca	ttc	aaa	tat	aat	3290					
311	Ala	Glu	Gly	Ala	Lys	Gln	Thr	Glu	Ala	Thr	Met	Thr	Phe	Lys	Tyr	Asn						
312	1040												1045			1050						
314	cgg	cag	agt	atg	acc	ttg	tcc	agt	gaa	gtc	caa	att	ccg	gat	ttt	gat	3338					
315	Arg	Gln	Ser	Met	Thr	Leu	Ser	Ser	Glu	Val	Gln	Ile	Pro	Asp	Phe	Asp						
316	1055												1060			1065			1070			
318	gtt	gac	ctc	gga	aca	atc	ctc	aga	gtt	aat	gat	gaa	tct	act	gag	ggc	3386					
319	Val	Asp	Leu	Gly	Thr	Ile	Leu	Arg	Val	Asn	Asp	Glu	Ser	Thr	Glu	G						

## VERIFICATION SUMMARY

DATE: 10/05/2001

PATENT APPLICATION: US/09/920,033

TIME: 13:13:53

Input Set : A:\PTO.MH.txt

Output Set: N:\CRF3\10052001\I920033.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date